

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

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**Amendments to the Claims:**

This listing of claims will replace all prior versions and listing of claims in this application.

**Listing of Claims:**

1.-43. (Canceled)

44. (Previously Presented) A process of preparing a branched homopropylene composition comprising: contacting a polymerization mixture that comprises propylene monomers with a metallocene catalyst compound having at least two indenyl rings or derivative of indenyl rings, wherein each ring is substituted at the 2 and 4 positions, activated with a non-coordinating anion, under temperature and pressure conditions below the melting point of the propylene polymer and where:

a) the temperature is at or above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium; or

b) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at or above the critical pressure of the reaction medium; or

c) the temperature is 1°C or more above the critical temperature for the reaction medium, and the pressure is at least 500 kPa above the critical pressure of the reaction medium, and

conducting polymerization of the propylene monomers for a time sufficient to form the branched homopropylene composition having a heat of fusion of 70 J/g, a  $T_m$  of 145°C or more and a branching index ( $g'$ ) of 0.97 or less.

45. (Previously Presented) The process of claim 44 wherein the temperature is 2°C or more above the critical temperature for the reaction medium.

46. (Previously Presented) The process of claim 44 wherein the temperature is between 94 and 160°C.

47. (Previously Presented) The process of claim 44 wherein the pressure is 1000 kPa or more above the critical pressure for the reaction medium.

48. (Previously Presented) The process of claim 44 wherein the pressure is between 5.0 and 9 MPa.

49. (Previously Presented) The process of claim 44 wherein the temperature is between 94 and 130°C and the pressure is between 5.0 and 7 MPa.

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

50. (Previously Presented) The process of claim 44 wherein solvent is present at 0 to 15 vol %.

51. (cancelled)

52. (cancelled)

53. (Previously Presented) The process of claim 44 where the metallocene catalyst compound is represented by the formula:  $L_z(Cp)_2M^mX_n$ , where: each Cp is independently a substituted indenyl ring wherein each ring is substituted at the 2 and 4 positions;

z is 0 or 1;

L is a bridging group connecting Cp to Cp, M is a Group 4, 5, or 6 transition metal;

m is 3, 4, 5 or 6;

X is a halogen or a substituted or unsubstituted hydrocarbyl group, a substituted or unsubstituted hydrocarboxy group, or a substituted or unsubstituted heteroatom containing group; and

n is m minus 2.

54. (Previously Presented) The process of claim 53 wherein z is 1, L is represented by the formula:  $R_qSi$ -where each R is, independently, a substituted or unsubstituted  $C_1$  to  $C_{20}$  hydrocarbyl group and q is 1, 2, 3 or 4; and both Cp groups are indenyl rings substituted at the 2 and 4 positions.

55. (Currently Amended) The process of any of claims 44 to 52 wherein the metallocene catalyst compound comprises one or more of:

dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

dimethylsiladiyl siladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;

Appl. No. 10/667,586

Office Action dated July 17, 2007

Amendment dated August 22, 2007

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-*n*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-*n*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-*n*-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-*n*-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-*n*-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-*n*-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;

Page 5 of 36

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Appl. No. 10/667,586

Office Action dated July 17, 2007

Amendment dated August 22, 2007

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>zirconium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub>hafnium dimethyl;

Page 6 of 36

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Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;

Page 7 of 36

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Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-isobutyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

Page 8 of 36

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Appl. No. 10/667,586

Office Action dated July 17, 2007

Amendment dated August 22, 2007

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

Page 9 of 36

K:\Bpel\LA\W\Prosecution\LMCC Prosecution\2002\2002B\170-2\US\3002\1170-2-US-2007Aug22-Amendment and Response.doc



Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dichloride;  
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> hafnium dimethyl;  
~~dimethylsiladiyl(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-~~  
~~butadiene;~~

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~dimethylsiladiyl(2 ethyl, 4 [3',5' di iso propylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 n propyl, 4 [3',5' di iso propylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2 iso propyl, 4 [3',5' di iso propylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2 n butyl, 4 [3',5' di iso propylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 iso butyl, 4 [3',5' di iso propylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2 sec butyl, 4 [3',5' di iso propylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2 tert butyl, 4 [3',5' di iso propylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3-~~  
~~butadiene;~~  
~~dimethylsiladiyl(2 methyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 ethyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 n propyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 iso propyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 n butyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 iso butyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 sec butyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~dimethylsiladiyl(2 tert butyl, 4 [3',5' di phenylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 methyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 ethyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 n propyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 iso propyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 n butyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 iso butyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 sec butyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 tert butyl, 4 [3',5' di tbutylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3 butadiene;~~  
~~9-silafluorendiyl(2 ethyl, 4 [3',5' bis trifluoromethylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3-~~  
~~butadiene;~~  
~~9-silafluorendiyl(2 n propyl, 4 [3',5' bis trifluoromethylphenyl] indenyl)<sub>2</sub>η<sup>4</sup>-1,4 diphenyl 1,3-~~  
~~butadiene;~~

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl 1,3-butadiene;~~

~~dimethylamidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;~~

~~dimethylamidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;~~

Appl. No. 10/667,586

Office Action dated July 17, 2007

Amendment dated August 22, 2007

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
 dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
~~dimethylamidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-~~  
~~butadiene;~~  
~~dimethylamidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;~~

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~dimethylamido~~borane(2-n-propyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-iso-propyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-n-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-iso-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-sec-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-tert-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~dimethylamido~~borane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~dimethylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

dimethylamidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

dimethylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

dimethylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethyl dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;

dimethylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;



Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

diisopropylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium

dichloride;

diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

diisopropylamidoborane(2-methyl, 4-[3',5'-di-tert-butylphenyl] indenyl)<sub>2</sub> n<sup>4</sup>-1,4-diphenyl-1,3-

butadiene;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~diisopropylamido~~borane(2-ethyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-n-propyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-iso-propyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-n-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-iso-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-sec-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-tert-butyl, 4-[3',5'-di-~~t~~butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

~~diisopropylamido~~borane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-*tert*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-*n*-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-*n*-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-*tert*-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-*n*-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium  
dimethyl;  
diisopropylamidoborane(2-*n*-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-*tert*-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-*n*-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-*n*-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;  
diisopropylamidoborane(2-*tert*-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-*n*-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-*n*-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-*n*-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-*n*-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dichloride;  
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-tert-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-tert-butylphenyl] indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~  
~~bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

~~bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

~~bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;~~

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;  
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)<sub>2</sub> zirconium dimethyl;



Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

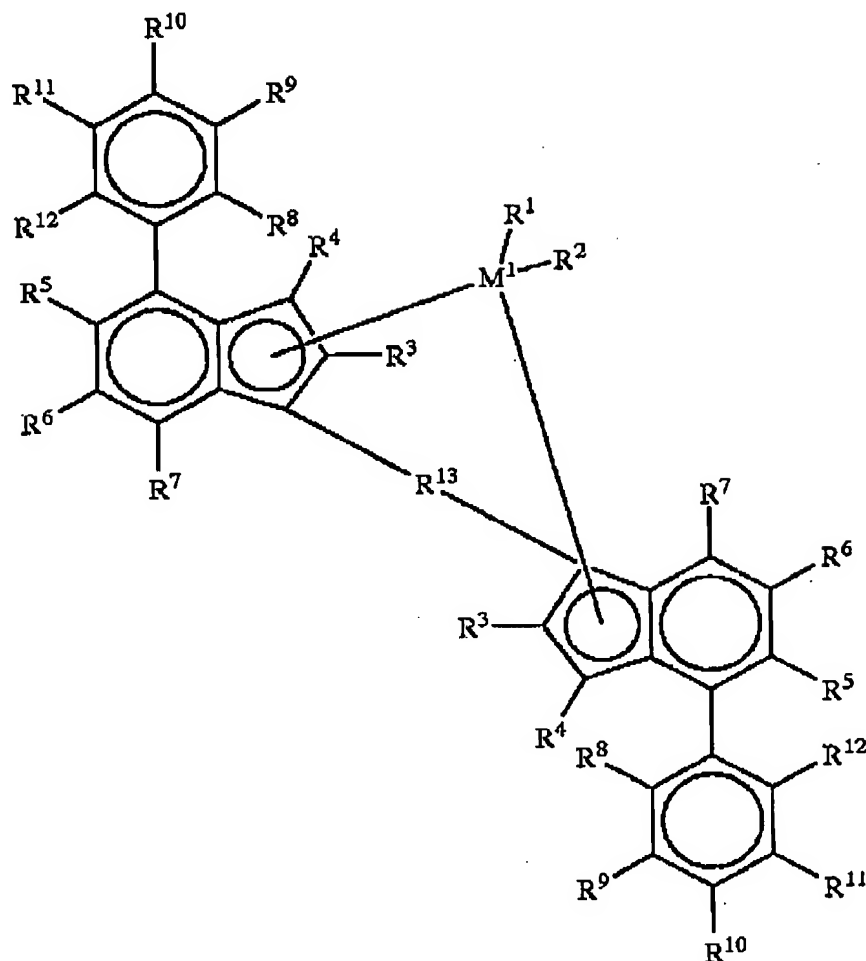
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl;

and bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl] indenyl)<sub>2</sub> zirconium dimethyl.

56. (Currently Amended) The process of claim 44 where the metallocene compound is represented by the formula:

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

(I)



wherein:  $M^1$  is selected from the group consisting of titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, molybdenum and tungsten;

$R^1$  and  $R^2$  are identical or different, and are one of a hydrogen atom, a  $C_1$ - $C_{10}$  alkyl group, a  $C_1$ - $C_{10}$  alkoxy group, a  $C_6$ - $C_{10}$  aryl group, a  $C_6$ - $C_{10}$  aryloxy group, a  $C_2$ - $C_{10}$  alkenyl group, a  $C_2$ - $C_{40}$  alkenyl group, a  $C_7$ - $C_{40}$  arylalkyl group, a  $C_7$ - $C_{40}$  alkylaryl group, a  $C_9$ - $C_{40}$  arylalkenyl group, an OH group or a halogen atom;

$R^1$  and  $R^2$  may also be joined together to form an alkanediyl group or a conjugated  $C_{4-40}$  diene ligand which is coordinated to  $M^1$  in a metallocyclopentene fashion;

$R^1$  and  $R^2$  may also be identical or different conjugated dienes, optionally substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl groups or hydrocarbyl,

Page 28 of 36

Appl. No. 10/667,586

Office Action dated July 17, 2007

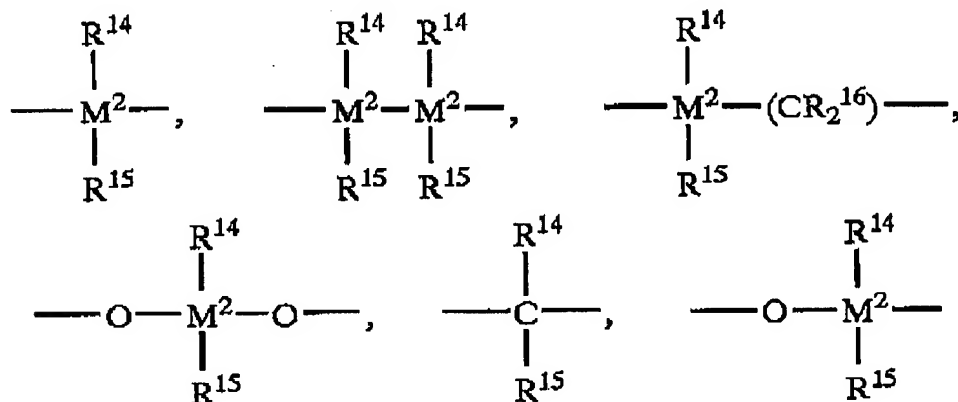
Amendment dated August 22, 2007

tri(hydrocarbyl)silylhydrocarbyl groups, said dienes having up to 30 atoms not counting hydrogen and forming a .pi. complex with M<sub>1</sub>, examples include 1,4-diphenyl 1,3-butadiene, 1,3-pentadiene, 2-methyl 1,3-pentadiene, 2,4-hexadiene, 1-phenyl 1,3-pentadiene, 1,4-dibenzyl 1,3-butadiene, 1,4-ditolyl 1,3-butadiene, 1,4-bis(trimethylsilyl) 1,3-butadiene, and 1,4-dinaphthyl 1,3-butadiene;

each R<sup>3</sup> is identical or different from the other R<sup>3</sup> and is each a halogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group which may be halogenated, a C<sub>6</sub>-C<sub>10</sub> aryl group which may be halogenated, a C<sub>2</sub>-C<sub>10</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, a C<sub>9</sub>-C<sub>40</sub> arylalkenyl group, a --NR'<sub>2</sub>, --SR', --OR', --OSiR'<sub>3</sub> or --PR'<sub>2</sub> radical, wherein R' is one of a halogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, or a C<sub>6</sub>-C<sub>10</sub> aryl group;

R<sup>4</sup> to R<sup>12</sup> are identical or different and are hydrogen, or are as defined for R<sup>3</sup> or two or more adjacent radicals R<sup>5</sup> to R<sup>7</sup> together with the atoms connecting them form one or more rings;

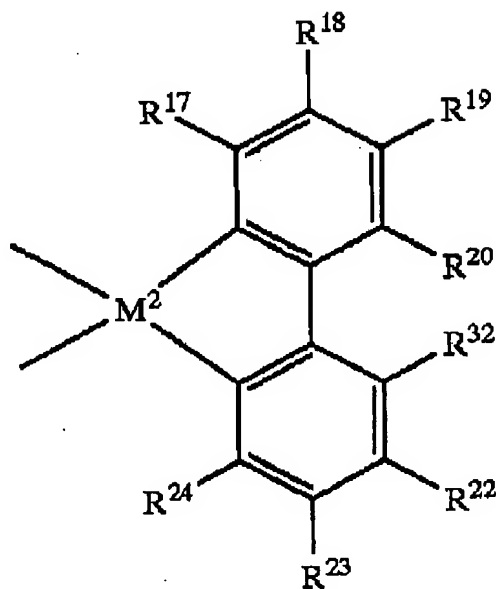
R<sup>13</sup> is:



--B(R<sup>14</sup>)--, --Al(R<sup>14</sup>)--, --Ge--, --Sn--, --O--, --S--, --SO--, --SO<sub>2</sub>--, --N(R<sup>14</sup>)--, --CO--, --P(R<sup>14</sup>)--, or --P(O)(R<sup>14</sup>)--;

wherein: R<sup>14</sup>, R<sup>15</sup> and R<sup>16</sup> are identical or different and are a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>20</sub> branched or linear alkyl group, a C<sub>1</sub>-C<sub>20</sub> fluoroalkyl or silaalkyl group, a C<sub>6</sub>-C<sub>30</sub> aryl group, a C<sub>6</sub>-C<sub>30</sub> fluoroaryl group, a C<sub>1</sub>-C<sub>20</sub> alkoxy group, a C<sub>2</sub>-C<sub>20</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, or R<sup>14</sup> and R<sup>15</sup>, together with the atoms binding them, form a cyclic ring; or, R<sup>13</sup> is represented by the formula;

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007



wherein:  $R^{17}$  to  $R^{24}$  are as defined for  $R^1$  and  $R^2$ , or two or more adjacent radicals  $R^{17}$  to  $R^{24}$ , including  $R^{20}$  and  $R^{21}$ , together with the atoms connecting them form one or more rings; and  $M^2$  is one or more carbons, silicon, germanium or tin.

57. (cancelled)

58. (Currently Amended) The process of ~~claim 1~~ claim 44 where the metallocene catalyst compound having at least two indenyl rings or derivative of indenyl rings, wherein each ring is substituted at the 2 and 4 positions and is a substituted or unsubstituted silyl bridged bis-indenyl metallocene.

59. (Previously Presented) The process of claim 44 where the metallocene catalyst compound is combined with propylene in an amount of up to 1.0 mole % hydrogen in the reactor.

60. (cancelled)

61. (Previously Presented) The process of claim 44 wherein the activator comprises alumoxane.

62. (cancelled)

63. (Previously Presented) The process of claim 44 wherein the activator is selected from the group consisting of:

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

trimethylammonium tetraphenylborate,  
triethylammonium tetraphenylborate,  
tripropylammonium tetraphenylborate,  
tri(n-butyl)ammonium tetraphenylborate,  
tri(tert-butyl)ammonium tetraphenylborate,  
N,N-dimethylanilinium tetraphenylborate,  
N,N-diethylanilinium tetraphenylborate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetraphenylborate,  
trimethylammonium tetrakis(pentafluorophenyl)borate,  
triethylammonium tetrakis(pentafluorophenyl)borate,  
tripropylammonium tetrakis(pentafluorophenyl)borate,  
tri(n-butyl)ammonium tetrakis(pentafluorophenyl)borate,  
tri(sec-butyl)ammonium tetrakis(pentafluorophenyl)borate,  
N,N-dimethylanilinium tetrakis(pentafluorophenyl)borate,  
N,N-diethylanilinium tetrakis(pentafluorophenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(pentafluorophenyl)borate,  
trimethylammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
triethylammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
tripropylammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
tri(n-butyl)ammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
dimethyl(tert-butyl)ammonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
N,N-dimethylanilinium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
N,N-diethylanilinium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
trimethylammonium tetrakis(perfluoronaphthyl)borate,  
triethylammonium tetrakis(perfluoronaphthyl)borate,  
tripropylammonium tetrakis(perfluoronaphthyl)borate,  
tri(n-butyl)ammonium tetrakis(perfluoronaphthyl)borate,  
tri(tert-butyl)ammonium tetrakis(perfluoronaphthyl)borate,  
N,N-dimethylanilinium tetrakis(perfluoronaphthyl)borate,  
N,N-diethylanilinium tetrakis(perfluoronaphthyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(perfluoronaphthyl)borate,

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

trimethylammonium tetrakis(perfluorobiphenyl)borate,  
triethylammonium tetrakis(perfluorobiphenyl)borate,  
tripropylammonium tetrakis(perfluorobiphenyl)borate,  
tri(n-butyl)ammonium tetrakis(perfluorobiphenyl)borate,  
tri(tert-butyl)ammonium tetrakis(perfluorobiphenyl)borate,  
N,N-dimethylanilinium tetrakis(perfluorobiphenyl)borate,  
N,N-diethylanilinium tetrakis(perfluorobiphenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(perfluorobiphenyl)borate,  
trimethylammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triethylammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
tripropylammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
tri(n-butyl)ammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
tri(tert-butyl)ammonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
N,N-dimethylanilinium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
N,N-diethylanilinium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
di-(iso-propyl)ammonium tetrakis(pentafluorophenyl)borate,  
dicyclohexylammonium tetrakis(pentafluorophenyl)borate;  
tri(o-tolyl)phosphonium tetrakis(pentafluorophenyl)borate,  
tri(2,6-dimethylphenyl)phosphonium tetrakis(pentafluorophenyl)borate,  
trollium tetraphenylborate,  
triphenylcarbenium tetraphenylborate,  
triphenylphosphonium tetraphenylborate,  
triethylsilylium tetraphenylborate,  
benzene(diazonium)tetraphenylborate,  
trollium tetrakis(pentafluorophenyl)borate,  
triphenylcarbenium tetrakis(pentafluorophenyl)borate,  
triphenylphosphonium tetrakis(pentafluorophenyl)borate,  
triethylsilylium tetrakis(pentafluorophenyl)borate,  
benzene(diazonium) tetrakis(pentafluorophenyl)borate,  
trollium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
triphenylcarbenium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,

Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

triphenylphosphonium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
triethylsilylium tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
benzene(diazonium)tetrakis-(2,3,4,6-tetrafluorophenyl)borate,  
tropillium tetrakis(perfluoronaphthyl)borate,  
triphenylcarbenium tetrakis(perfluoronaphthyl)borate,  
triphenylphosphonium tetrakis(perfluoronaphthyl)borate,  
triethylsilylium tetrakis(perfluoronaphthyl)borate,  
benzene(diazonium) tetrakis(perfluoronaphthyl)borate,  
tropillium tetrakis(perfluorobiphenyl)borate,  
triphenylcarbenium tetrakis(perfluorobiphenyl)borate,  
triphenylphosphonium tetrakis(perfluorobiphenyl)borate,  
triethylsilylium tetrakis(perfluorobiphenyl)borate,  
benzene(diazonium) tetrakis(perfluorobiphenyl)borate,  
tropillium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triphenylcarbenium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triphenylphosphonium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate,  
triethylsilylium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate, and  
benzene(diazonium)tetrakis(3,5-bis(trifluoromethyl)phenyl)borate.

64. (Currently Amended) The process of claim 44 wherein the activator comprises one or more of:  
dimethylanilinium tetrakis(perfluorophenyl)boron, tri(n-butyl)ammonium  
tetrakis(pentafluorophenyl)boron ~~tetrakis(pentafluorophenyl)boron~~, N,N-dimethylanilinium  
tetra(perfluorophenyl)borate and/or triphenylcarbenium tetra(perfluorophenyl)borate.

65. (Previously Presented) The process of claim 44 where the catalyst compound, the activator or both are supported.

66. (Currently Amended) The process of ~~claim 44~~ claim 65 wherein the support comprises silica.

67. (Previously Presented) The process of claim 44 wherein the process occurs in an autoclave reactor.

68. (Previously Presented) The process of claim 44 wherein the process occurs in a tubular reactor.

69. (Previously Presented) The process of claim 44 wherein the process occurs in a loop reactor.



Appl. No. 10/667,586  
Office Action dated July 17, 2007  
Amendment dated August 22, 2007

70. (Previously Presented) The process of claim 44 wherein the polymerization medium comprises at least two phases.

71. (Previously Presented) The process of claim 44 wherein the catalyst activity is at least 2597 grams of polymer per gram of catalyst per hour.